

CLAIMS

1. A peptide or protein having a neovascularization action and containing a basic amino acid cluster region of β 1,6-N-acetylglucosaminyltransferase.

2. The peptide or protein according to Claim 1, wherein the β 1,6-N-acetylglucosaminyltransferase has the following properties:

(1) Action: N-acetylglucosamine is converted into α -6-D-mannoside using UDP-N-acetylglucosamine as a donor substrate;

(2) Substrate specificity: If the substrate specificity when GnGn-bi-PA is a receptor is 100%, the substrate specificity when GnGnF-bi-PA is a receptor is about 78%, the substrate specificity when GnGnGn-tri-PA is a receptor is about 125%, and the substrate specificity when GnM-PA is a receptor is about 66%;

(3) Optimum pH: 6.2 to 6.3;

(4) Activity: Mn^{2+} is not necessary for exertion of activity, and activity is not inhibited even in the presence of 20 mM EDTA;

(5) Molecular weight: About 73,000 (by SDS-PAGE in the absence of a reducing agent) and about 73,000 and about 60,000 (by SDS-PAGE in the presence of a reducing agent);

(6) Km value: Km values for a receptor GnGn-bi-PA and a donor UDP-GlcNAc are 133 μ M and 3.5 mM, respectively;

(7) having the following peptide fragments:

(a) Thr-Pro-Trp-Gly-Lys,

(b) Asn-Ile-Pro-Ser-Tyr-Val,

(c) Val-Leu-Asp-Ser-Phe-Gly-Thr-Glu-Pro-Glu-Phe-Asn-His-Ala-Asn-Tyr-Ala,

(d) Asp-Leu-Gln-Phe-Leu-Leu, and

(e) Asn-Thr-Asp-Phe-Phe-Ile-Gly.

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3. The peptide or protein according to Claim 1, wherein the β 1,6-N-acetylglucosaminyltransferase has an amino acid sequence containing at least an amino acid sequence as depicted in SEQ ID NO: 6, or an amino acid sequence obtained by
10 modification of one or more amino acids in this amino acid sequence.

4. The peptide or protein according to Claim 1, wherein, in the basic amino acid cluster region, the number of basic amino
15 acids accounts for 30% or more of the total number of amino acids in said region.

5. The peptide or protein according to Claim 1, wherein the basic amino acid cluster region contains at least an amino
20 acid sequence as depicted in SEQ ID NO: 7 or an amino acid sequence obtained by modification of one or more amino acids in this amino acid sequence.

6. A neovascularization accelerator containing the peptide
25 or protein according to any one of Claims 1 to 5.

7. The neovascularization accelerator according to Claim 6, wherein it is a wound healing agent or a preventing and/or therapeutic agent for arteriosclerosis.

8. A neovascularization inhibitor screening method, which comprises using the peptide or protein according to any one of Claims 1 to 5.

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9. A neovascularization inhibitor screening method, which comprises using a cell capable of secreting the peptide or protein according to any one of Claims 1 to 5 expressed in the cell out of the cell.

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10. The screening method according to Claim 9, wherein the cell is a cell in which the peptide or protein according to any one of Claims 1 to 5 can be highly expressed.

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11. A neovascularization inhibitor screening method, which comprises using a protease cutting a mature type β 1,6-N-acetylglucosaminyltransferase anchored on a Golgi body membrane to convert this into a secretory type β 1,6-N-acetylglucosaminyltransferase.

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12. The screening method according to Claim 11, wherein the protease is β -secretase.

13. The screening method according to Claim 11, wherein
25 the protease is γ -secretase.

14. A compound showing a neovascularization inhibiting action in the screening method according to any one of Claims 8 to 13.

15. A compound showing a neovascularization inhibiting action wherein the compound suppresses expression of the peptide or protein according to any of Claims 1 to 5.

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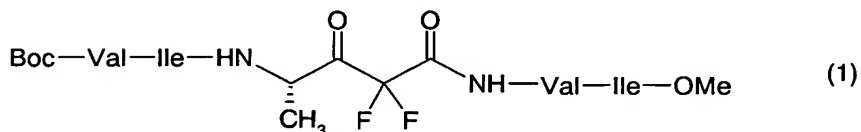
16. A compound showing a neovascularization inhibiting action wherein the compound suppresses binding of the peptide or protein according to any one of Claims 1 to 5 to heparan sulfate proteoglycan.

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17. A neovascularization inhibitor comprising the compound according to any one of Claims 14 to 16.

18. A neovascularization inhibitor comprising a compound
15 having a γ -secretase inhibiting action.

19. The neovascularization inhibitor according to Claim 18, wherein the compound having a γ -secretase inhibiting action is a compound represented by the following formula (1):



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(wherein, Boc represents a butoxycarbonyl group, OMe represents a methoxy group, Val represents valine, and Ile represents isoleucine).

25 20. An antibody to the peptide or protein according to any one of Claims 1 to 5.

21. An assay method for the peptide or protein according to any one of Claims 1 to 5, which comprises using the antibody according to Claim 20.

5 22. A detection kit for the peptide or protein according to any one of Claims 1 to 5, which comprises the antibody according to Claim 20.